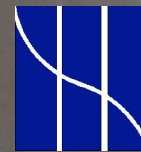




California High-Speed Rail Authority

Preliminary Funding Strategy and Finance Plan: Bay Area to Anaheim Segments - Report



**Infrastructure
Management
Group/Lehman Brothers
Team**

May 23, 2007

In Partnership with:
**Sperry Capital
Bauer & Associates
Jack Faucett Associates
CDS Consulting
Dutch Ventures LTD**

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Executive Summary



The funding of a high-speed train (HST) system in California from the Bay Area to Anaheim (the Project) will likely comprise private and public sources; however, support from local, state and federal sources will be particularly important in early development.

- Private participation could be expected in the range of \$4.5 to 7 B through several funding mechanisms.
 - Key private funding mechanisms include: project debt, vendor financing, system operations and private ownership.
 - The extent and cost of private funding will reflect the risks inherent in the Project.
 - Vendor financing, in addition to, or in conjunction with, segment operations seems the most advantageous public-private partnership (P3) vehicle at this early stage.
- Public support, both financial and political, is needed to create an opportunity for the Authority to leverage private participation.
 - Private participants have concerns related to environmental and construction risks, and will wait to invest until there is additional certainty surrounding Project implementation.
 - Environmental certification can be costly and subject to unforeseeable delays. Public funding is essential to completing this project component due to these issues.
 - Right-Of-Way (ROW) and other property acquisition may need to be facilitated through the use of eminent domain authority unavailable to private partners.

Executive Summary (continued)



The Project's funding will likely comprise private and public sources; however, support from local, state and federal sources will be particularly important in early development.

- The State can issue at least \$9.95 B in GO debt currently, as scheduled on the November 2008 ballot, without exceeding the Administration's current debt capacity guidelines.
 - The State also has additional GO capacity to issue up to \$41 B (\$28 B in 2006 \$) without exceeding a 7 percent ratio of debt service to General Fund revenue.
 - The State could also support the Project through the issuance of sales tax bonds, instead of traditional GO bonds.
 - This could lower the cost of funds due to more highly rated sales tax bonds and their attractiveness to investors who are approaching portfolio limits on GO debt.
 - A sales tax could be "dovetailed" with the end of the sales tax dedicated to the State's ERBs, resulting in no net sales tax increase.

Executive Summary (continued)



The Project's funding will likely comprise private and public sources; however, support from local, state and federal sources will be particularly important in early development.

- Federal funding is critical to the Project's success and should be a key focus of the Authority beginning now throughout Project development.
 - The targeted federal funding of \$10 - \$12 B would come, in part, from existing funding sources, but would require the creation of new programs designed with HSR in mind.
 - In addition, the commitment of federal funds and specific changes to certain federal fund restrictions are key signals that would encourage private participation.
 - Currently, California's congressional delegation is uniquely well-positioned on appropriations and transportation committees to assist in these Federal legislative efforts.
- Local partnerships will play a key role in generating public support as well as providing a targeted \$2 B in funding for system development.
 - These funds are expected to be raised through a variety of mechanisms, including local P3 initiatives, Benefit Assessment Districts, and local sales taxes.
 - The California High Speed Rail Authority (the Authority) should work closely with local governments, private partners and planning organizations during early project development to better secure this source.

Executive Summary (continued)

The Project is estimated to cost \$30 B in construction costs and a further \$500 MM in financing fees over a 12-year period.*

<u>Funding Sources</u>	<u>Amount (in \$B)</u>
Public-Private Partnerships (P3)	\$5 to \$7.5
State Support	\$9 to \$12.5
Federal Support	\$10 to \$12.5
Local Partnerships	\$2 to \$4
Additional Funding Sources	
Environmental “Benefit Capture”	\$0.5 to ?
Additional Local Corridor Cost Sharing	\$1 to \$3
Total Funding	\$27.5 to \$39.5

*All figures are in 2006 dollars.



Public-Private Partnerships - Overview



Based on initial conversations with private companies, P3s could serve as a financing source a portion of the Project, absorbing certain risks.

- Construction firms, vendors, operators and private equity firms are all interested in the project, and could, on their own or in partnership with one another, participate in the development of the Project.
 - Each participant is willing to undertake specific levels and types of risks.
 - The involvement of each of these players could be beneficial to the Authority at different times in the development of the Project.

Participant	Environmental Risk	Construction Risk	Ridership Risk	Operational Risk
Construction Firm	No	Yes	Limited	Some
Equip. Vendor	No	Some (Equip.)	Some	Limited
Operator	No	Some	Some	All
Equity Investor	No	Limited	Some	Some

Chart assumes that each participant is working with the Authority in a partnership which involves a sharing of risk and return.

Public-Private Partnerships - Overview (cont'd)



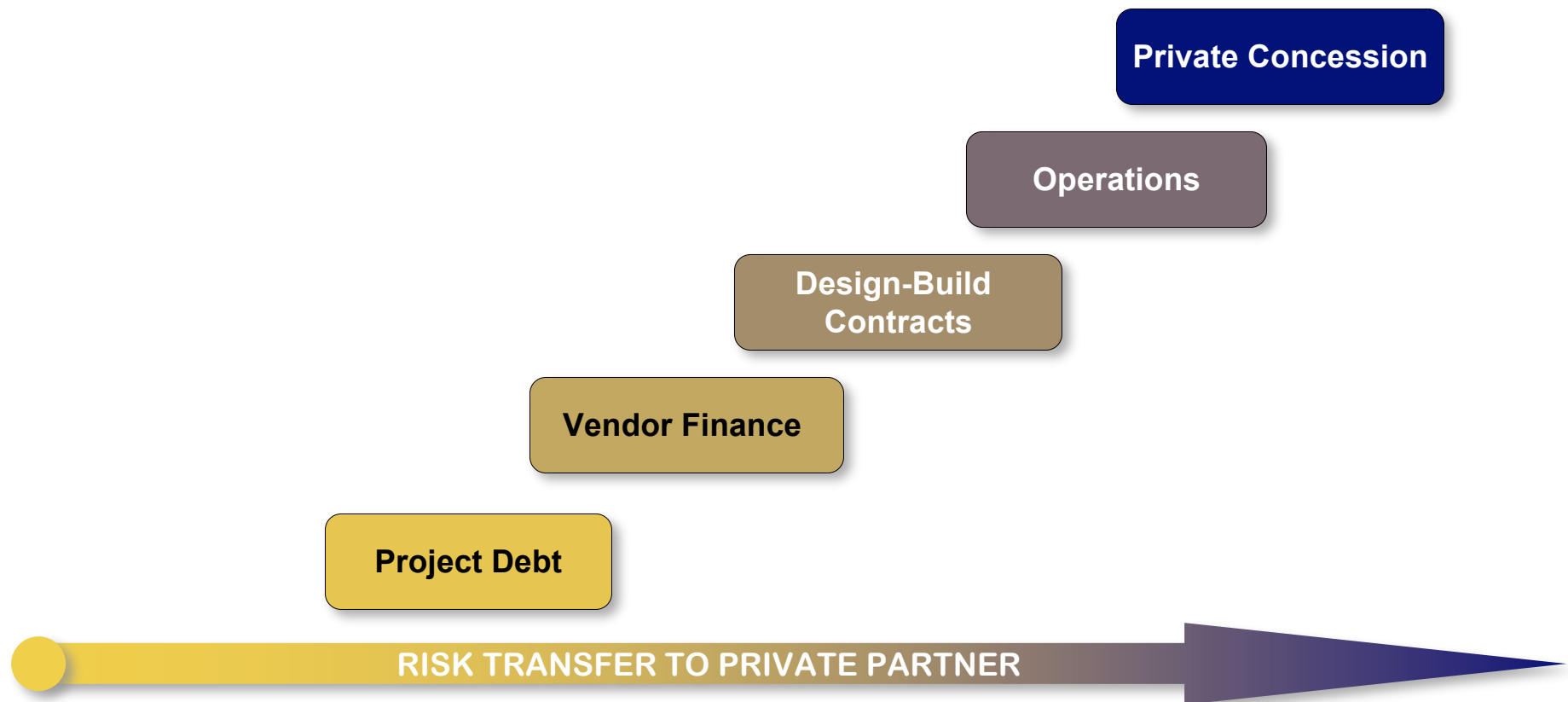
Based on initial conversations with private companies, P3s could serve as a financing source a portion of the Project, absorbing certain risks.

- System surpluses have been examined to estimate the potential investment a vendor, operator or equity investor may be willing to make.
 - The value of the operation of this system to a private sector participant is based on the surplus system revenues.
 - The availability of these revenues to support equipment lease payments was also evaluated assuming reduced up-front capital costs for equipment.
- It is assumed that the ultimate P3 mechanism employed by the Authority will involve a number of different private participants sharing risks and returns.

Public-Private Partnerships - Overview (cont'd)



Based on initial conversations with private companies, P3s could serve as a financing source a portion of the Project, absorbing certain risks.



Public Private Partnerships - Project Debt



The Project's risks affect its value to private partners.

- As a greenfield project and the first of its kind in the United States, the Project's construction and operation risks are perceived to be high. Key concerns are:
 - Capital cost overruns and construction delays
 - The Project's ability to meet ridership and revenue forecasts.
- The financial implications of these risks are:
 - Likely high debt service coverage ratio requirements (ratio of net available cash to debt service), of approximately 1.75 to 2.0 times annual debt service
 - A high cost of capital:
 - A coupon rate of approximately 7.25 percent on revenue bonds, based on a 150 basis points premium over the assumed rate for State GO bonds
 - Financing fees, such as up to 6 percent on a Railroad Rehabilitation & Improvement Financing (RRIF) loan, were that mode of financing to be utilized
 - These assumptions reflect the perceived risk of the Project; these costs could be lower with state or federal guarantees, by lowering interest rates, debt service coverage requirements and credit risk premiums.

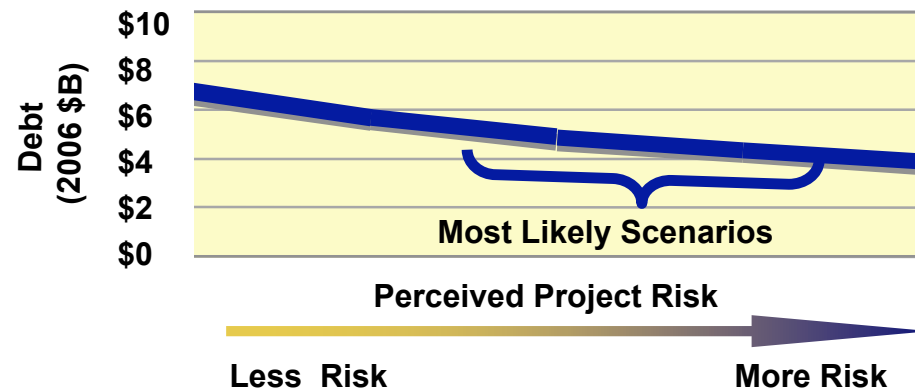
Construction

Ridership

Public Private Partnerships - Project Debt



Given expected market terms, the Authority would likely be able to issue \$4.0 B to \$5.5 B of fare-based debt for the Bay Area to Anaheim segment.



- The range above is based on low-end ridership estimates and does not include non-farebox revenues such as advertising or concessions.
- This analysis assumes a blend of likely financing instruments, including revenue bonds/private activity bonds, RRIF and Transportation Infrastructure Finance and Innovation Act (TIFIA) loans.
- Loans or bonds are assumed issued during critical construction phases (2010-2020).
- An additional \$0.5 B to \$1.5 B equity investment could be supported on top of this debt, assuming required rates of return between 13 and 20 percent.

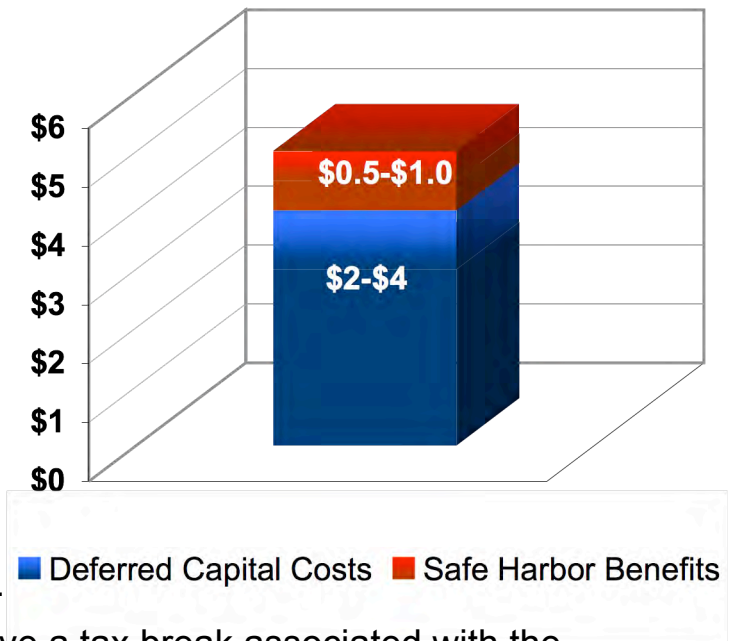
Public-Private Partnerships - Vendor Financing



Vendor financing could reduce the Project's up-front capital costs by \$2 B to \$4 B, resulting, however, in annual lease payments.

- This would shift up-front capital equipment and infrastructure costs to annual lease payments.
 - This shift would reduce overall capital expenditure, but would lower the annual operating surplus.
 - As a result, the HST system would have less revenue available to support bond issues or share with private partners.
 - Vendor financing could also be used in the context of a larger segment operations contract.
- “Safe Harbor” leasing could generate tax incentives for leased assets to increase the value to the Authority beyond \$2 B to \$4 B.
 - The IRS currently prohibits this, but exemptions could be sought for new infrastructure investments.
 - An exemption would allow the asset owner to receive a tax break associated with the depreciation cost of that asset.
 - This Authority could capture a portion of the resulting \$0.5 B to \$1 B in estimated tax savings.

Benefits of Vendor Financing



Public-Private Partnerships - Design/Build



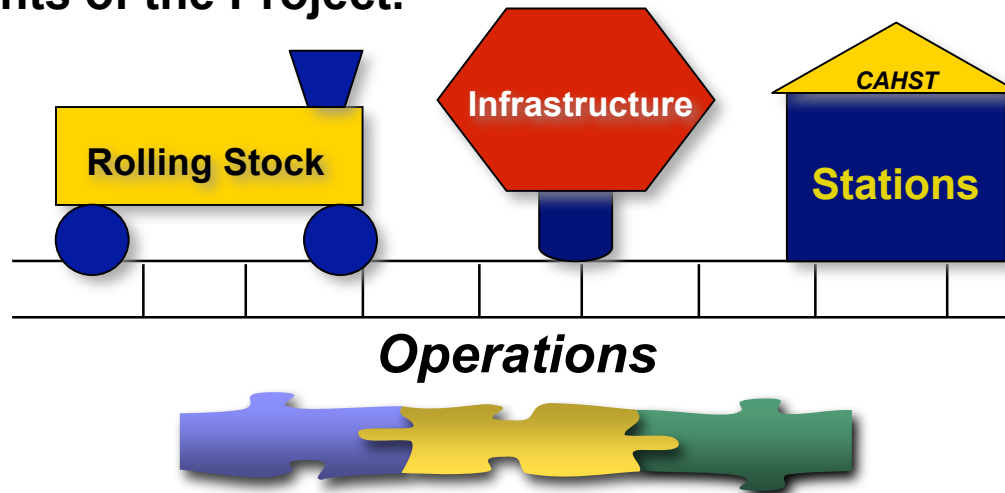
The private sector can reduce schedule and completion risks of major projects through design/build contracts and similar tools.

- Transferring design and construction risk to private construction firms in conjunction with guaranteed maximum price lump sum contracts, where feasible, can transfer major risks to private parties.
- Adequately addressing construction risk is a major requirement for obtaining equity investment at the start of the project.
 - This approach has been recently used for 91 Express lanes, the Transportation Corridor Agencies (TCA) projects, SR-22, SR-125 and other California projects.
- Independent of private investment, design/build can be used in an “availability payment” contract for the entire project or segments:
 - Authority makes annual availability payments to builder once project is complete
 - Bonus paid if traffic is high or system is available for use more than anticipated
 - Approach recently used for Miami tunnel and U.K. “PFI” projects.

Public-Private Partnerships - Operations



Private operators are likely to be interested in operating/maintaining various elements of the Project.



- These arrangements may involve a consortium or individual operators taking responsibility for project elements (i.e. infrastructure, O&M, rolling stock or stations).
- This could occur in combination with vendor financing opportunities.
- In addition to bringing in private operations methods, operators may consider equity investments, receiving fare and non-fare revenues and availability payments as compensation.

Public-Private Partnerships - Private Ownership



Equity investment in the Project depends considerably on how project risks, particularly ridership and construction, are addressed.

- Equity investors, in particular private equity funds, have emerged as new investors in infrastructure PPPs, especially in toll roads, such as in the existing (“brownfield”) Chicago Skyway, Indiana Tollway, and new (“greenfield”) Texas toll roads.
 - Investors are attracted to the steady cashflows of tolls and fares that meet the long-term funding needs of backers, such as pension funds and insurance companies.
 - Some funds are restricted from greenfield investments due to experience with delay, cost-overflow, and political meddling in past projects, including California’s SR-125.
 - Investors are sensitive about ridership risk, especially for rail, due to poor past transit experience.



Key Project Risks

Environmental

Construction

Ridership

Operations

Regulatory

Public-Private Partnerships - Private Ownership



Equity investors, including private equity funds and operators, would require certain transaction terms to participate in the Project.

- **Transaction size:** Funds are attracted to the size of the project; however, any one fund is not likely to provide financing of more than \$3 B to \$5 B.
- **Segmentation is attractive:** The 12-year construction period poses a significant challenge, making a “segment by segment” approach more appropriate.
- **Project finance goals:** As equity investors may require returns of 13-20 percent or higher, strategy is to maximize project finance debt.
 - Start-up project senior debt requires debt coverage ratios of at least 1.75.
 - Long-term concessions could allow for periodic “roll-over” of debt.
 - Project should maximize subordinate debt vehicles that accept lower coverage ratios, as well as “patient” flexible lenders including TIFIA.
- **Minimum Subsidy Bids:** Some investors would consider competing on the lowest required subsidy for those segments that cannot be financed on their own.
 - There is some concern that the application of this method to a project of this size and complexity may invite undercapitalized bidders; therefore, careful evaluation is needed.
- **Real Estate:** Pure real estate investment, such as for station development, would likely be financed through “sister” real estate funds.

Public-Private Partnerships – Need for Demonstrated Public Commitment



While private partners can potentially support a portion of the Project, this support will not materialize without a strong public commitment.

- History suggests that political risk associated high-speed rail projects in the United States is high.
- Private sector participants are actively following the progress of this project and will interpret the State's actions, with respect to next year's budget as well as the proposed bond measure, as an indication of the level of risk present for CA HSR.
- Strong public support at this stage is necessary to enable meaningful discussions with private participants that will help to refine the estimates presented here, as well as lay the groundwork for an eventual partnership with the private sector.
- Proposed near-term expenditures for preliminary design and crucial environmental work necessarily will be the responsibility of the public sector under any realistic plan of finance. Delays or scale-backs would raise future costs and raise perceived political risk of the project in the eyes of the private sector.
- Perceived lack of commitment at this stage also may have negative implications for the State's future negotiating position with potential private partners.



State Support - Background



The State has made considerable investments to develop passenger rail service; the HST would greatly enhance these investments.

- Various services currently exist for California rail travel:
 - Amtrak Service: long distance, inter-state service, including service on the Coast Starlight, CA Zephyr, Southwest Chief and Sunset Limited
 - State supported/Amtrak operated: intra-state services where the state pays all or a majority of net cost (Pacific Surfliner, San Joaquin, Capitol Corridor)
 - Commuter rail service: Caltrain, Metrolink, Coaster, Altamont Commuter Express (ACE), which are local and regional.
- Since 1976, the State has invested over \$1.6 B in capital funding for equipment and infrastructure in a system cost more than \$5 B in total expenditures.
- Current passenger rail service operates at a deficit and has cost the State over \$700 MM in operating funding, and is a continued obligation of the State.
- Additional state passenger rail funding is currently being sought through the issuance of \$9.95 B in state general obligation debt for the HST system.

State Support - Background



Development of a HST system is expected to provide a high return on investment for state dollars in economic and environmental benefits.

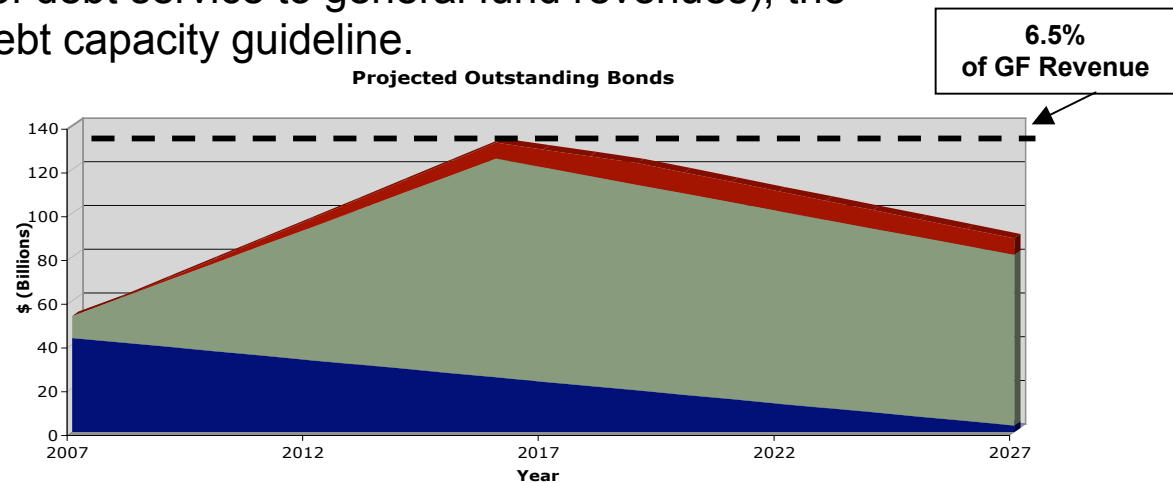
- Statewide and regional economic impact models show enhanced population growth.
 - Compared to the no-project alternative, the population growth is roughly two percent (700,000 people) higher for the HST alternative.
 - This population difference between alternatives represents the increased accessibility provided by the transportation investments.
- Research shows the generation of about 300,000 job-years of employment from HST construction.
- Statewide employment is projected to increase by two percent for the HST alternative, a statewide increase of about 450,000 jobs.
 - If only half of this predicted job gain were realized, the annual increase in income taxes collected is estimated at half a billion dollars annually.
- The HST-system is expected to reduce petroleum consumption and carbon emissions based on the use of the HST versus other modes of transportation.
 - Emissions reductions are forecasted at between 8 and 12 billion pounds annually.

State Support - General Obligation Bonds



The \$9.95 B in GO Bonds already scheduled for the 2008 ballot are affordable under the Administration's current debt capacity guideline.

- The Governor projects \$100 B in bonds to be issued through FY 2015-16; \$9 B in GO Bonds HST bonds could also be issued without exceeding a debt ratio of 6.5 percent (ratio of debt service to general fund revenues), the Administration's current debt capacity guideline.
- The State has an estimated GO bond capacity of **\$41 B (\$28 B in 2006 dollars)** beyond the Governor's planned \$100 B – without exceeding a debt ratio of 7.0 percent.
- The State also could support the HST Project through the issuance of bonds backed by a dedicated state-wide sales tax, instead of traditional GO bonds. This approach could lower interest rates and appeal to investors desiring "diverse credits." A sales tax for HST could be "dovetailed" with the end of the current state-wide sales tax for the State's Economic Recovery Bonds (ERBs).



State Support - General Obligation Bonds



California had nearly \$43 B in bonds outstanding as of 2/1/07. If the Governor's latest proposals are enacted, a further \$100 B could be issued in less than 10 years.

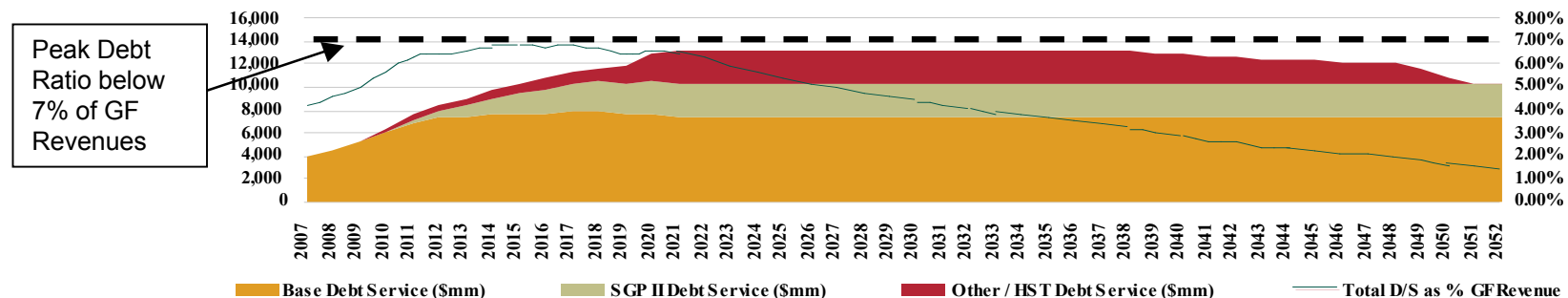
- California currently has outstanding over **\$37 B** in General Obligation Bonds (GO Bonds) and \$7.6 B in Lease Revenue Bonds (LRBs), with approval to issue nearly **\$71 B** more at some time in the future (all as of February 1, 2007).
- Current state issuance plans for previously authorized bonds include the sale of over **\$67.5 B** in new GO bonds and LRBs by the end of fiscal year 2015-16.
- The Governor has proposed authorizing an additional **\$41 B** in new bonds under the "Strategic Growth Plan II" (SGP II), of which the Administration estimates over **\$32.5 B** in GO bonds and LRBs would be issued by the end of fiscal year 2015-16.
- Thus, the Governor projects approximately **\$100 B** in total bonds to be issued through fiscal year 2015-16 - without exceeding a ratio of debt service to general fund revenues of 6.50 percent, the Administration's current debt capacity guideline.

State Support - General Obligation Bonds



The \$9.95 B in GO bonds already scheduled for the 2008 ballot could be issued between 2009 and 2019 without increasing the State's debt ratio above 6.50 percent.

- Issuing these bonds in addition to the Governor's other planned issues through 2016 would yield an estimated cumulative state debt service ratio at 6.47 percent of general fund revenues (in FY 2014-15), if properly structured.
- In fact, California's estimated GO capacity over the next 14 years could be sufficient to support approximately \$41 B (nearly \$28 B in 2006 dollars) in additional bonds beyond the Governor's planned \$100 B in sales through FY 2015-16 (excludes newly proposed lease revenue bonds for corrections facilities).
- This additional GO capacity could be made available for new projects (such as the HST) - without exceeding a 7 percent debt service ratio.



State Support - General Obligation Bonds

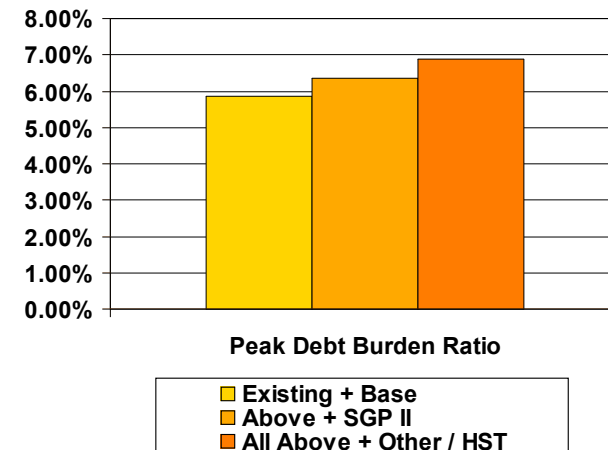
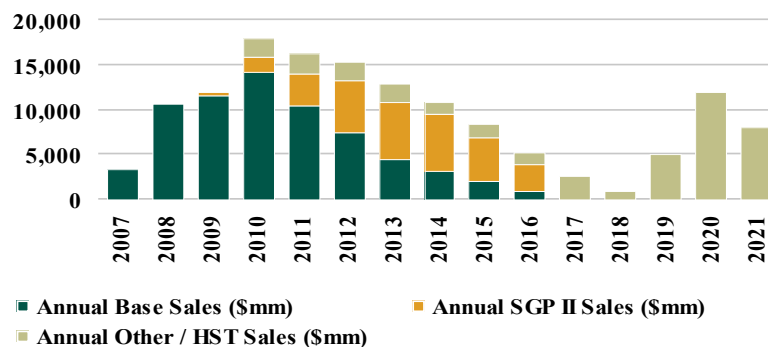


HST GO Bonds would be issued in coordination with previously authorized and planned general fund debt.

- Under the Governor's assumed schedule for issuance of approximately **\$67.5 B** of previously approved bonds by 2016, the aggregate ratio of debt service to general fund revenues is estimated to peak at 5.85 percent.
- With the addition of another **\$32.5 B** in bonds by 2016 under the SGP II, the ratio of debt service to general fund revenues is estimated to peak at 6.35 percent.
- The addition of another **\$41 B** would bring the ratio of debt service to general fund revenues to a peak of 6.89 percent in FY 2015-16.

Projected Debt Issuance Levels – Including CA HSR

Projected Annual Debt Issuance (\$ millions)



State Support - Sales Tax Bonds



Bonds backed by a state-wide sales tax could be an attractive alternative to traditional GO bonds – and generate significant HST funding.

- Ratings on the State's traditional GO Bonds currently are A1/A+/A+. Ratings on the State's Economic Recovery Bonds – with a double barreled security backed by sales tax and a GO pledge – are now Aa3/AA+/AA- following upgrades from Standard & Poor's and Fitch Ratings.
- Under current market conditions, we would expect about 15 basis points lower cost for the sales tax-backed bonds – worth \$150 MM on \$10 B in bonds.
- This “spread” relationship could change depending on market conditions, the State's fiscal situation, the volume of bonds being issued, and other factors.
- The biggest advantage may be from “product diversification” that allows investors to purchase bonds with a credit structure that is distinguishable from the traditional GO bonds.
- A quarter-cent state-wide sales tax could generate upwards of \$40 B in total funding by 2020 (assuming multiple 30-year bonds and conservative 2% annual increase in debt service and 4% annual increase in available sales tax revenues). Tax and bond terms could be tailored to “match” State's desired HST investment.

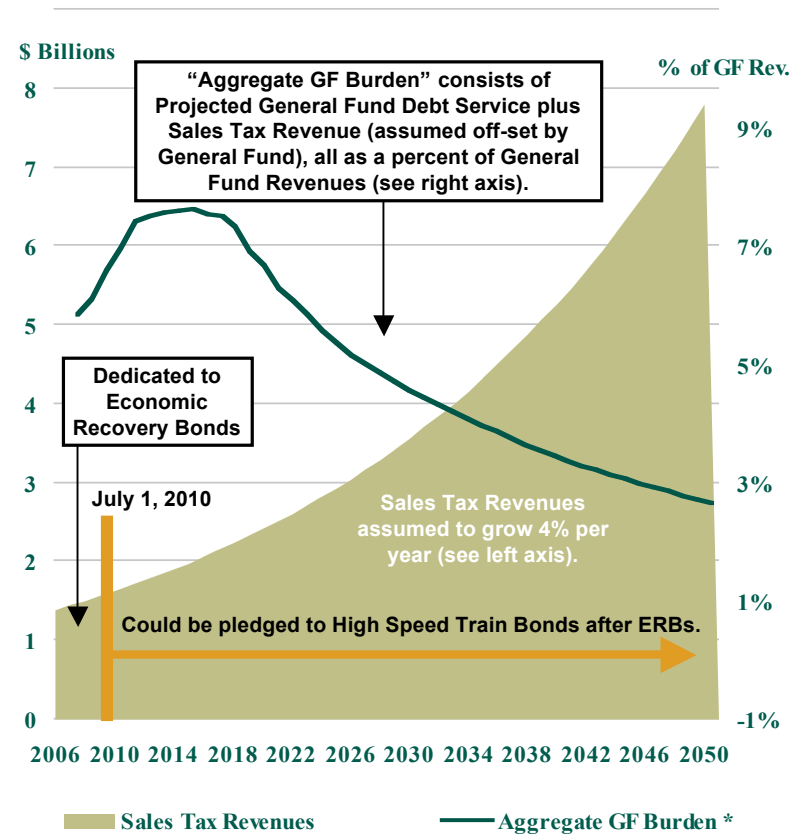
State Support - Sales Tax Bonds



A sales tax for the HST could fit within existing tax rates, if “dovetailed” with the end of the sales tax dedicated to the State’s ERBs.

- The Administration projects full redemption of the remaining ERBs by July 1, 2010.
- This offers an opportunity for a new sales tax dedicated to HST to “dovetail” with the sunset the ERB sales tax, for no net rate increase.
- The existing sales tax for ERBs was created by the State after elimination of a ¼ cent local sales tax, which the general fund now “backfills” to local agencies.
- If a sales tax for HST were structured the same way, this backfill increases the aggregate general fund burden, which also includes GO and lease debt service.
- Voter approval would be required to issue bonds, even if backed by a sales tax.

¼ Cent State-wide Sales Tax Revenues





Federal Support



Since federal financial and regulatory support is crucial to Project's success, the Authority should target \$10 B to \$12 B in federal funding, taking advantage of California's well-positioned congressional delegation.

- California currently has Senate and House representation on key committees at a time when transportation legislation is up for reauthorization. In addition environmental issues and energy policy are high on lawmakers' agendas.
- Support from existing federal legislation includes the following:
 - Federal funding typically supports 50 to 80 percent of many transit projects; however, the scale of the HST project is beyond that of the typical project.
 - Existing federal funding sources could, over time, provide between **\$3 B and \$4 B** through a combination of New Starts, other grant programs and financing assistance.
- New federal initiatives include the following:
 - New funding sources specifically for high-speed rail, as well as the expansion of existing transit programs, must be pursued rigorously to provide support for the Project.
 - Further modification of existing federal funding terms and restrictions would also make the Project more attractive to private investors.
 - Transportation system investments, as opposed to individual highway, aviation or transit investments, are needed to encourage efficient allocation of transportation dollars.

Federal Support - California Congressional Advantage



California currently has Senate and House representation on key committees that could provide crucial support for the Project.

- Senator Boxer sits on the following committees:
 - Environment and Public Works Committee Chair - Oversees the reauthorization of SAFETEA-LU*
 - Commerce, Science and Transportation Committee Member.
- Senator Feinstein sits on the following committees:
 - Appropriations Committee Member
 - Transportation, Housing and Urban Development and Related Agencies Subcommittee
- Congresswoman Pelosi is Speaker of the House.
- House Transportation and Infrastructure Committee has seven California members.
 - Highways and Transit Subcommittee has five members.
 - Rail Subcommittee has two members.
 - These members are geographically distributed across California: San Diego, Sacramento, Los Angeles and the Bay Area
- In addition, members from other states with high-speed rail corridors (Florida, Texas, Northeast Corridor, etc.) could be important allies in efforts to obtain HSR funding.

* Safe, Accountable, Flexible, Efficient Transportation Equity Act : A Legacy for Users

Federal Support - Grant Funding



Current available federal sources are limited and their use would incur restrictions associated with the “Buy America” program.

- Federal Transit Administration (FTA) Section 5309 Funds (New Starts) are available for the construction of new fixed guideway systems, providing a total of about \$1.5 B per year on a competitive basis for all new projects in the U.S.
 - The Project could be eligible for these funds where it provides or interfaces with commuter rail services such as Metrolink, Caltrain, Coaster, and the Altamont Commuter Express (ACE).
 - Projects become candidates for funding by completing appropriate steps in the major capital planning process.
 - Funding is currently limited to a maximum of 60 percent of eligible project costs.
- The Federal Highway Administration (FHWA) and Federal Rail Administration (FRA) currently provide grade separation monies of about \$220 MM per year.
 - Additional funds are available through local MPOs, but these funds would also be used for other CA transit projects.
 - FRA has some safety crossing funds which can also be used for grade separation project elements; however, these amounts would not adequately support a project on the scale of the HST system.

Federal Support - Grant Funding



To generate more more flexible funding for the HST, targeted at \$5 B to \$6 B, key changes to existing programs are needed.

- Reauthorization efforts for SAFETEA-LU, the transportation legislation that sets FTA, FHWA and FRA program funding and earmarks, are already underway to replace the current legislation that is set to expire September 30, 2008.
- Targeted program changes would provide \$5 B to \$6 B in funding over the development of the Project:
 - Increase in the funding available to the New Starts program and a broadening of the program to specifically include high-speed rail pilot program
 - Additional funding for the FRA and FHWA programs which fund grade separations and the expansion of the ability to “flex” these funds, or shift them across transportation modes.
- Additional changes would encourage private participation and potentially lower the Project’s perceived risk:
 - Allow the purchase of property outside the ROW and station footprint with federal funds
 - Exempt high-speed rail development from “Buy America” restrictions

Federal Support - Grant Funding



New funding sources that explicitly support HST are needed, providing additional funding targeted at \$4 B to \$5.5.

- Recently introduced legislation (H.R. 1300) indicates that energy dependency is a current concern and high-speed rail is seen as a part of the solution. Legislation directly funding high-speed rail due to its environmental- and energy-friendliness should be strongly pursued as a pilot program; targeted at \$4 B.
- Transportation system investments, as opposed to individual aviation, highway, and transit investments, should be encouraged through the flexible use of transportation dollars.
 - Amtrak reauthorization should be written so that any high-speed rail project can apply for funding under the legislation for eligible improvements such as electrification, grade separations, safety investments and signals; targeted at **\$1 B**.
 - The reauthorization of current aviation legislation which expires September 30, 2007 provides an opportunity to expand the use of Federal aviation funds and Passenger Facility Charges to fully fund transportation ties to the airport; targeted at **\$500 MM**.

Federal Support - Financing Support



Current innovative finance programs could be used to support the HST system, especially subordinate lien and long-dated characteristics.

- The Transportation Infrastructure Finance and Innovation Act of 1998 (“TIFIA”) established a federal credit program for eligible transportation projects of a national or regional significance.
 - Roughly \$2 B in annual credit support is available through secured direct loans, loan guarantees, and lines of credit.
 - Interest rates reflect the government’s borrowing costs.
 - Government’s terms reflect its willingness to be a “patient investor” resulting in:
 - lengthy amortization period (up to 35 years)
 - flexible payment deferrals (to to 10 years)
 - subordinate status attractive to other investors.
 - Principal amounts of credit assistance can be up to 33 percent of eligible project costs.

Federal Support - Financing Support (cont'd)



Current innovative finance programs could be used to support the HST system, especially subordinate lien and long-dated characteristics.

- The RRIF program is a revolving loan and loan guarantee program administered by FRA that is legislatively enabled to issue up to \$35 B.
 - Interest rates are attractive but issuers must pay a one-time up-front fee, of up to 600 basis points, based on the risk of the project.
 - RRIF can fund up to 100% of project costs and allows for a five-year grace period.
 - RRIF's senior debt status could be a concern for private partners that prefer this type of innovative finance credits to be subordinate to other project debt.
- Private Activity Bonds (PABs) allow the private sector to borrow at tax-exempt rates with no federal regulatory requirements and are authorized to be issued in amounts up to \$15 B for transportation projects.
 - PABs are highly attractive to private investors in conjunction with a P3 program that includes equity investment, design-build, and operations involvement and could be used in conjunction with TIFIA/RRIF.
 - PABs currently have restrictions governing the percentage of proceeds that can be used for land acquisition, and the improvement that must be done on properties purchased with PAB dollars.

Federal Support - Financing Support



The following changes in federal programs could help provide additional flexibility and reduce financing costs by a target of \$500 MM.

- TIFIA:
 - An increase in the loan repayment term from 25 to 50 years
 - The removal of interest accrual during construction.
- RRIF:
 - The removal and/or reduction of current upfront credit risk premium payments by the loan applicant.
 - An increase in the loan repayment term from 25 to 50 years
 - A reduction in interest rates to reflect those of tax-exempt issues
 - An increase in the principal and interest grace period from 5 to 10 years
 - The removal of interest accrual during construction.
- PABs:
 - An increase in the total authorized value of PABs for transportation purposes.



Local Partnerships



Private and public mechanisms could generate the \$2 B to \$ 4 B of targeted local funding and would demonstrate important local support.

- **Transit Oriented Development**
 - Parking, other mixed use development
 - Local P3 initiatives
- **Benefit Assessment Districts**
 - Santa Clara Valley Transportation Authority
 - LA's Metropolitan Transportation Authority
- **Station Concessions**
 - Retail, advertising etc.
 - Local P3 initiatives
- **Local Transportation Sales Taxes**
 - Orange County Transportation Authority
- **Air Rights and ROW Leases**
 - Transbay Joint-Powers Authority

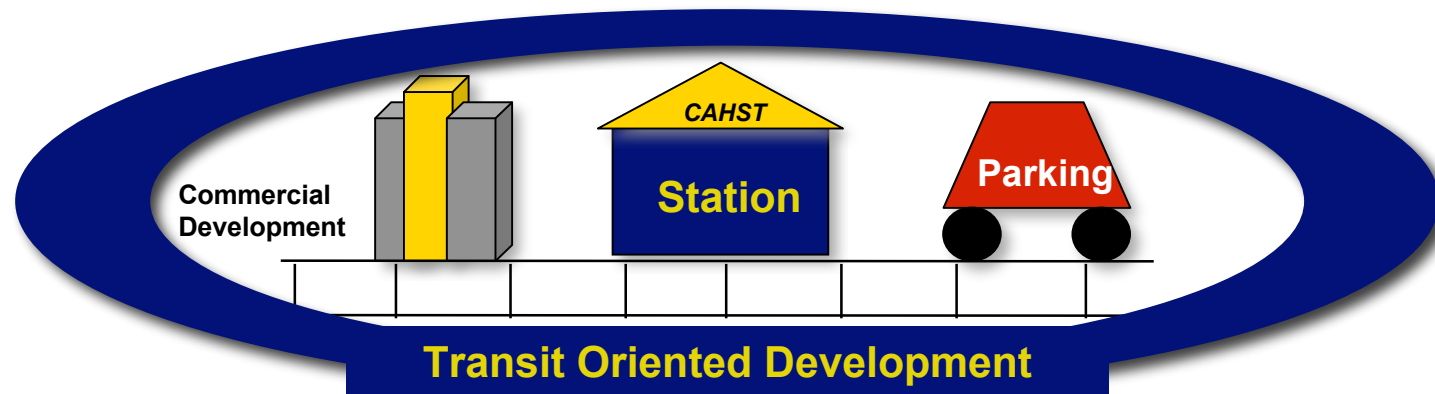
Local Strategic Partnerships

- CA HSR Authority
- Local Government and Transportation Authorities
- Private Developers

Local Partnerships - Joint Development



Through joint-development, private firms can assist in capturing and sharing real estate value with the Project.



- Station and parking development should be straight forward in obtaining private partners that are willing to invest immediately.
- For commercial development such as office space built atop the station or on right-of-way, the level of interest will depend on the local real estate market.
- Other transit-oriented development (TOD) will require a longer development period and not likely serve as an immediate project financing source.
- Joint development opportunities need to be assessed in the context of all value capture opportunities.

Local Partnerships - Land Value Capture



Through land value capture mechanisms, the Authority and local communities may be able to access Project's benefits created at surrounding stations and in nearby communities.

- Land value capture refers to methods of capturing the likely increases in property values that may be driven by the development and expansion of train stations in the high-speed rail corridor.
- Typically, land value capture is achieved through targeting rezoning or development levies applied directly to areas which increase in value as a result of the project. Land value capture benefits include increases in the value of “train station” or “city center” properties and businesses.
- In the 1980s, LACMTA was authorized to create two benefit assessment districts (BADs) which generated additional property taxes to help finance Metro's red line.
 - These taxes resulted in \$130 million for the project, approximately 10 percent of the cost.
- More recently in 2003, Santa Clara VTA was granted similar authority to levy benefit assessments on certain property in close proximity to proposed new rail stations.

Local Partnerships – Urban Station Development Case Study



Anaheim's Regional Transportation Intermodal Center (ARTIC), a regional strategic partnership, will likely be funded with public and private monies, including sales taxes, grants and BADs.

- The City of Anaheim and the Orange County Transportation Authority (OCTA) are jointly developing the ARTIC at a total cost of \$ 250 MM.
 - OCTA purchased 13.5 acre site for \$32 MM using Measure M sales tax revenues; the City's adjacent 2.5 acres are valued at \$6 MM.
- Transportation components are envisioned to include Metrolink, Amtrak, HST, California/Nevada Super Speed Train, OCTA bus service, a people mover to area attractions including Disneyland, and shuttle/taxi services.
- ARTIC is expected to help create a market-driven mixed-use environment linking sports and entertainment venues with business, retail and residential development (the "Platinum Triangle"), a unique Orange County "downtown."
 - ARTIC developers are exploring a viable combination of public and private revenue sources to pay for and operate the facility.
 - Future costs will be financed with additional Measure M sales tax revenues, federal grants, community facilities district bonds, and tax increment financing.
- This example demonstrates potential economic development benefits and value capture tools that HST could leverage.

Local Partnerships – Urban Station Development Case Study



San Francisco's Transbay Joint-Powers Authority (JPA) is an ambitious plan to build, operate and maintain the new \$2.6 B Transbay Transit Center (TTC) to be funded with TIF, concessions and user fees.

- Initial Transbay JPA funding sources include:
 - Sales tax revenues from San Francisco and San Mateo County Transportation Authorities
 - Transferable development rights
 - \$150 MM from AB 1171 for seismic retrofit of Bay Bridges
 - Regional Transportation Improvement Program (RTIP) funds are committed by MTC
 - Federal Section 1601, High Priority Bus, Projects of National Significance grants
 - TIFIA loans.
- Sources for debt service include:
 - Tax increment financing within redevelopment area
 - Concession and lease revenue
 - Proposed Passenger Facility Charges (PFCs) from Alameda-Contra Costa Transit District, Caltrain and the HST:
 - TTC financial plan assumes \$2.25 (2006 dollars) for each HST passenger and assumes the HST's PFC would escalate at 3% per year.

Local Partnerships – Urban Station Development Case Study



The Santa Clara Valley Transportation Authority (VTA) makes use of benefit assessment district and TOD property acquisition legislation to fund San Jose Diridon station.

- San Jose Diridon Station is a “hyper” strategic partnership, owned by Peninsula Corridor JPA made up of San Francisco, SAMTRANS and VTA.
 - Serves Caltrain, two local commuter services, Amtrak and UPRR freight trains.
 - It is part of the capital corridor service operated by the Capital Corridors JPA in partnership with six local transit agencies.
- VTA developed Vasona Light Rail line to Diridon Station.
 - In 2005, VTA adopted joint development program designed to secure most appropriate public and private sector development of VTA-owned properties.
 - VTA is well positioned for joint development projects:
 - AB 670 (1999) allows VTA, SAMTRANS and Bay Area Rapid Transit (BART) to acquire land entirely for the purpose of TOD.
 - AB 935 (2003) authorizes VTA to establish benefit assessment districts relative to its rail lines and to issue revenue bonds; it permits VTA to levy “benefit assessments” on certain property within a half mile of station, with proceeds to be used for the station.
 - AB 1937 (2002) allows transit operator to enter into joint development agreements.

Local Partnerships – Central Valley Station Development Case Study



The Fresno Station could serve as a catalyst for local redevelopment and allow the Project to capture benefits for financing.

- There are two rail corridors currently serving the Fresno region:
 - Burlington Northern Santa Fe (BNSF) rail corridor serves 30 daily freight trains and 12 daily Amtrak trains.
 - Union Pacific Railroad (UPRR) rail corridor serves 20 daily freight trains.
- The HST station is planned for UPRR corridor, which borders Fresno's downtown.
 - Amtrak service may be relocated to UPRR corridor (currently on BNSF track).
 - Large quantities of land are available, including 300 feet corridor in downtown from Hwy 41 on south and up to Divisadero Avenue.
 - While historic Southern Pacific station, located on the UPRR line, has been converted to office building, a new HST station could be located nearby on surplus city property.
 - Much of this area is in a redevelopment district.
- Measure C sales tax program was reauthorized for 20 years and could potentially provide funding for HST development in Fresno.
- The Project could also help with the relocation of freight operations and Amtrak service to west side of downtown; this "railroad consolidation plan" has been a long-term objective of city planners.

Local Partnerships –Operations Support



Strategic partnerships with some communities, similar to the existing MOU between OCTA and the Authority, could move beyond station development to supporting segment operations.

- The Authority and OCTA approved a Memorandum of Understanding (MOU) to conduct environmental studies on a high-speed rail segment between Anaheim and downtown Los Angeles.
 - The Orange County segment of the high-speed route would travel at least as far south as Anaheim along existing railroad right-of-way.
 - Pursuant to the MOU, OCTA will provide \$7 MM in local funds starting in FY 2007-08 to initiate a project-specific environmental document for the Orange County portion of the rail segment between Los Angeles Union Station and Anaheim.
- OCTA is anxious to expand rail transit in Orange County and throughout the region and may be receptive to strategic P3's for the operation of segments.
 - OCTA has substantial Renewed Measure M funds to invest in transit.



Additional Support - State P3 Legislation



Key California legislative changes could encourage greater participation by the private sector.

- Existing law restricts P3 tools to limited numbers and types of projects and imposes a cumbersome review and approval process.
- The Administration and Legislature have not yet achieved consensus on framework for greater use of P3s in California.
- However, proposed legislation for toll road P3s, SB 61, includes broad language related to the types of partnerships allowed and is currently written to include rail and related facilities.
 - The Authority should encourage the enactment of SB 61 or similar legislation for P3.
 - Once the parameters of potential HST P3 arrangements are identified, further legislation could be contemplated:
 - Amendments could be made to state law in the future to broaden the types of partnerships allowed, as needed.
 - A specific HST P3 bill could be presented if necessary changes are significant.

Additional Support – Local Cost Sharing



Currently the Project costs include all those that are necessary for the HST system, regardless of whether other transportation organizations need similar improvements.

- Specific elements of the HST Project, such as grade separations and corridor electrification, are needed for HST and other transportation organizations.
- The Authority could share the costs of these improvements and lower its overall cost.
- The Authority also could partner with local agencies in seeking incremental federal and P3 funding of mutual benefit.
- Future engineering, engineering and alignment work will uncover necessary detail to identify these potential shared costs; Initial Authority estimates place potential target benefits in range of \$1 B to \$3 B. No “validation” has yet been performed.

Additional Support - Alternative Environmental Funding Sources



With California's focus on reducing emissions, the Authority should leverage the Project's environmental benefits to create funding sources.

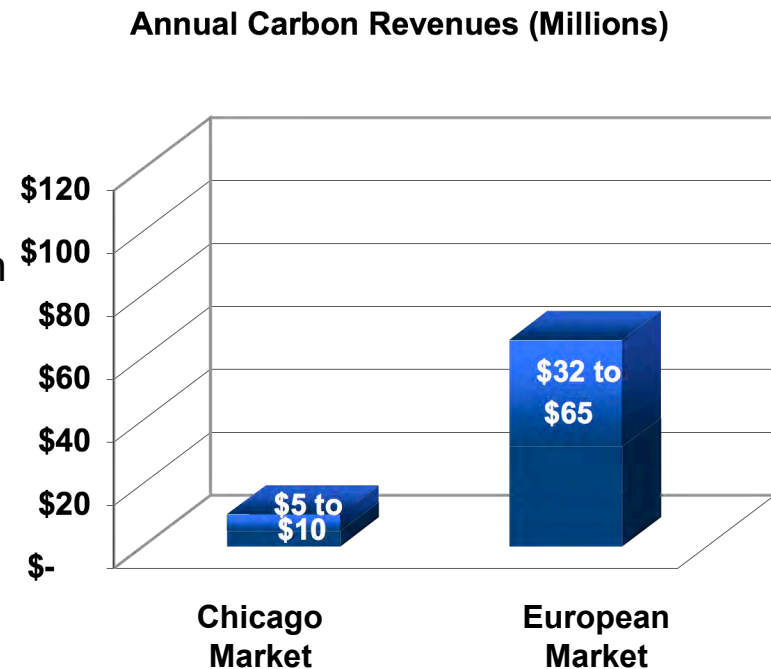
- AB 32 requires the State Air Resources Board to reduce emissions to 1990 levels by 2020.
 - The Board may adopt a “cap and trade” system (market-based declining annual aggregate emission limits) for sources, applicable from 2012 to 2020, by using exchanges, banking, credits and other transactions.
 - The Board may adopt a schedule of fees to be paid by regulated sources of greenhouse gas emissions and deposited in the Air Pollution Control Fund.
 - Investment in new technologies is encouraged.
- The Governor is a supporter of the use of market-based credits.
 - The Governor buys emissions credits to offset his air travel at \$10 per ton from the Pacific Forest Trust, which is accredited by the California Climate Action Registry.
 - This has encouraged other elected officials, including Senator Diane Feinstein, and Assembly Speaker Fabian Nuñez, to support the purchase of emissions credits.
- A carbon credit “cap and trade” or direct carbon tax system could be implemented to require investment in clean transportation, like HST, from emissions-heavy transportation, like aviation.

Additional Support - Carbon Credit Program



Although revenues from a carbon credit program will initially be small, they could grow as the restrictions on carbon emissions increase.

- Preliminary estimates indicate that the HST would reduce aviation carbon emissions in California by 3.0 to 6.2 B pounds annually.
- If carbon were priced based on Chicago's fledgling climate exchange, carbon-based revenues generated by the high speed train would range from \$5 to \$10 MM annually.
- If carbon prices were instead more similar to those in Europe's more established market, revenues would range from \$32 to \$65 MM each year.
- As the market value for carbon increases, or California makes a policy decision to tax carbon production more heavily, these values could increase considerably.





Finance Plan - Overview

The Project is estimated to cost \$30 B in construction costs and a further \$500 MM in financing fees over a 12-year period.*

<u>Funding Sources</u>	<u>Amount (in \$B)</u>
Public-Private Partnerships (P3)	\$5 to \$7.5
State Support	\$9 to \$12.5
Federal Support	\$10 to \$12.5
Local Partnerships	\$2 to \$4
Additional Funding Sources	
Environmental "Benefit Capture"	\$0.5 to ?
Additional Local Corridor Cost Sharing	\$1 to \$3
Total Funding	\$27.5 to \$39.5

*All figures are in 2006 dollars.

Finance Plan - Timing of Funds



The finance plan requires a combination of sources. Private support would occur at different times depending on the P3 type.

Development Stage	Key Participants		
	State and Federal	Local	Private
Environmental and pre-engineering	Must fully support this stage	Potential support of segment planning	None
Early Construction	Must largely support this stage	Some segment construction/ROW acquisition support	Mostly construction firms; any equity investment at this stage would require a large discount on expected future earnings.
Late Construction	Must partially support this stage	Most funding will come at this time as stations near completion.	Construction firms, and pure vendors; investment will still require a discount on expected future earnings.
Operational Opening	Little to none	None	Vendors, and pure operators; investment may still require a discount on expected future earnings
Ongoing Operations	None	None	Operators and investors will be particularly interested once ridership is proven.

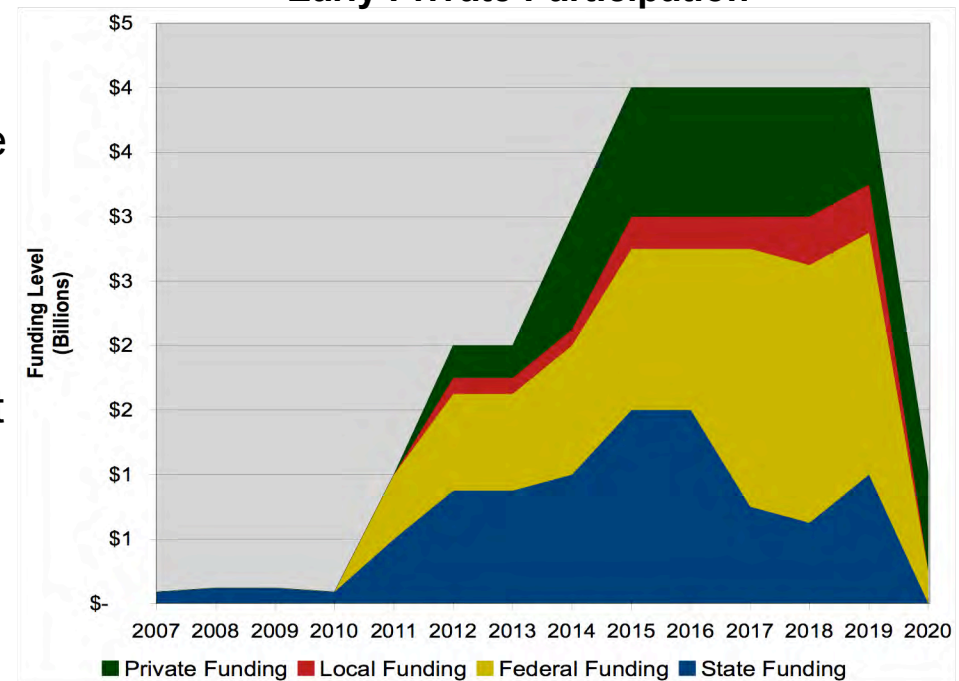
Finance Plan - Project Timing



Private participation could occur early with a construction firm/investor consortium that shared in future revenues; however, this is unlikely.

- State funds would support all pre-construction engineering and planning work.
- Federal funds would play a role once ROW acquisition and system construction begins.
- Local funds will provide support at different times, in parallel with system development across different communities.
- Private funds would support construction and/or systems and equipment expenditures throughout the construction period.

Early Private Participation



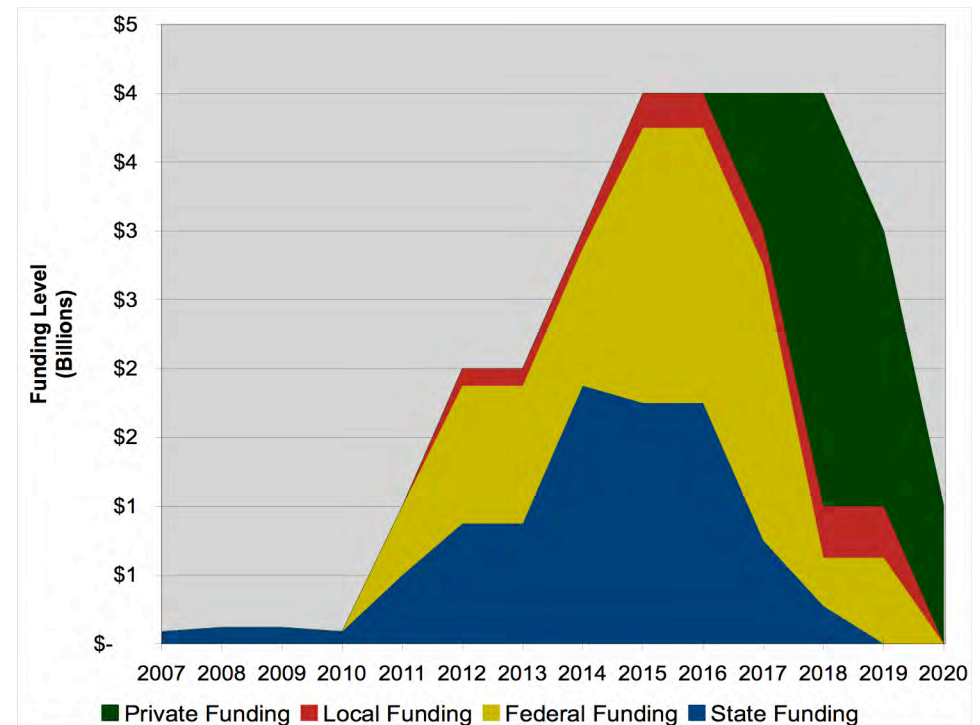
Finance Plan - Project Timing



Private participation could occur during the latter construction phases once completion risk is reduced and funding sources are secure. However, the valuation will still be discounted for ridership risk.

- State funds would support all pre-construction engineering and planning work, as well as early construction.
- Federal funds would play an important role once ROW acquisition and system construction begins.
- Local funds will provide support at different times, in parallel with system development across different communities.
- Private funds would support construction and/or systems and equipment expenditures once the above conditions were met.

Mid-Term Private Participation



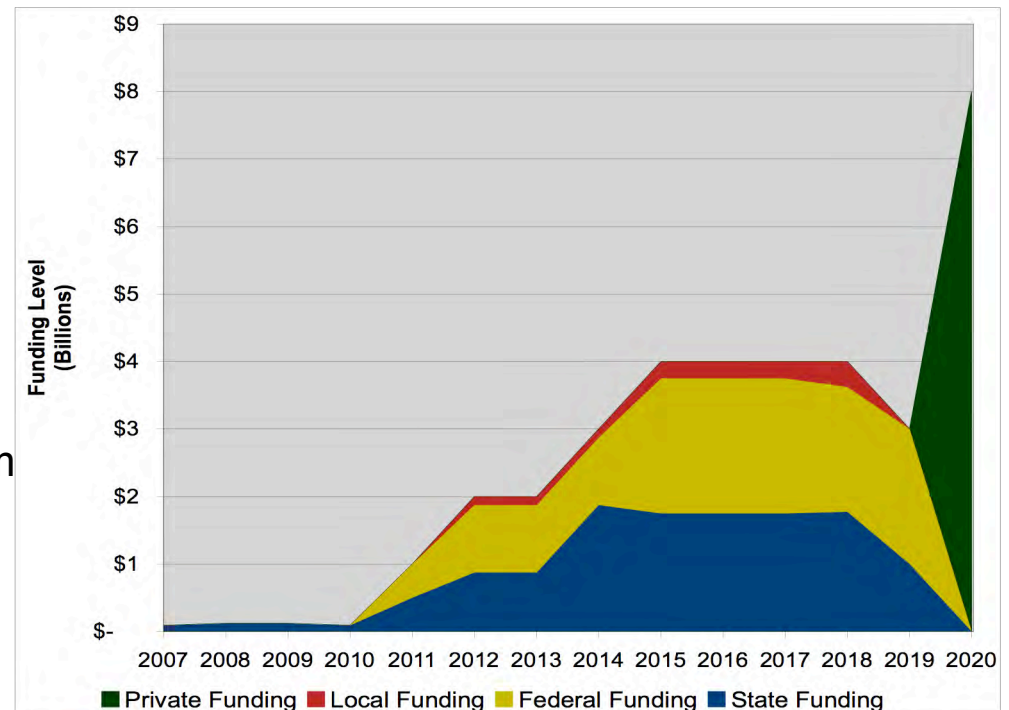
Finance Plan - Project Timing



If completion risk is considered too high, private participation may not be available until operational opening, requiring more up-front state and federal dollars to be repaid with later private investment.

- State funds would support all pre-construction engineering and planning, and early construction.
- Federal funds would play a key role once ROW acquisition and system construction begins.
- Additional state/federal funds would be needed during construction in place of private dollars.
- Local funds will provide support at different times, in parallel with system development across.
- Private funds would primarily be provided at operational opening and subject to ridership risk.

Operational Opening Private Participation



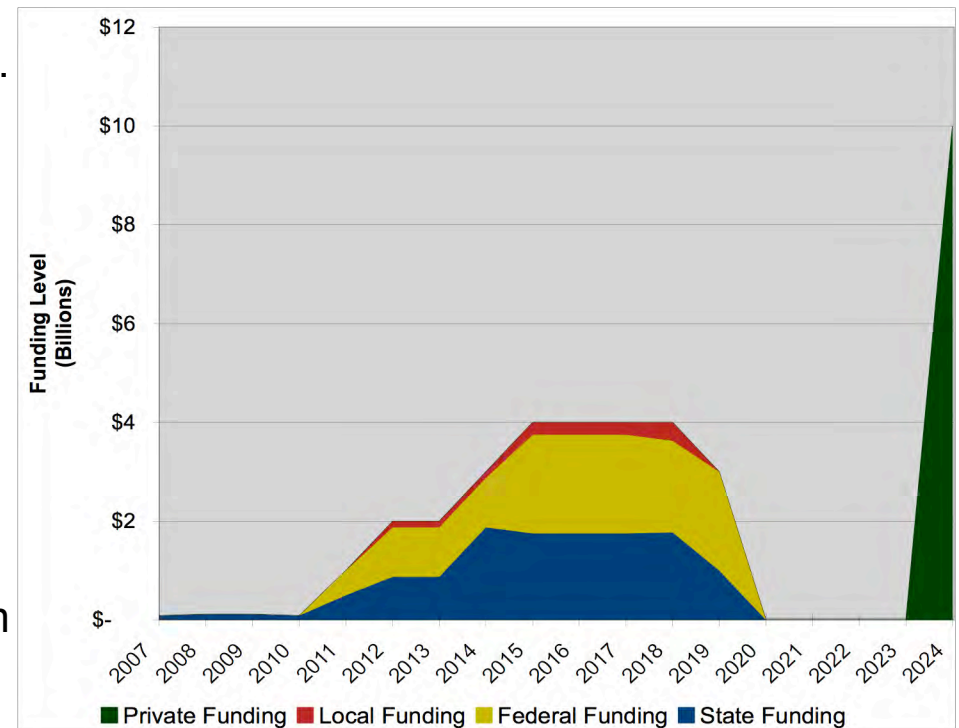
Finance Plan - Project Timing



If ridership risk is seen as too high, private participation may not be available until after operational opening, requiring more up-front state and federal dollars to be repaid with a later, larger private investment.

- State funds would support all pre-construction engineering and planning work, and early construction.
- Federal funds would play an important role once ROW acquisition and system construction begins.
- Additional state/federal funds would be needed during construction in place of private dollars.
- Local funds will provide support at different times, in parallel with system development.
- Private funds would take on long-term ridership risk.

Later Operational Private Participation



Finance Plan - Project Timing



Since the Authority likely needs private support during the construction, efforts need to be made to clearly define risks early and to identify partners who are willing to take some completion and ridership risk.

- An early commitment on the part of the private sector will reduce the total dollar value of private participation; however, early private participation may accelerate and improve planning and implementation and further validate Project feasibility.
- Private partners who have an interest in the completion of the Project, particularly vendors and operators, have the most to gain and are therefore more likely to be interested in investing early.
- To attract these partners the Authority should:
 - Provide early opportunities for potential partners to indicate their ideal P3 structure
 - Focus on ensuring that federal and state law is conducive to the types of P3 structures proposed
 - Focus on securing federal and state funding for key phases
 - Work to clearly define all risks and convey that information to potential funding sources and the public.



Appendix A - Glossary



- B - Billion
- BPS - Basis points
- FHWA - Federal Highway Administration
- FRA - Federal Rail Administration
- FTA - Federal Transit Administration
- GO - General Obligation
- HST - High-Speed Train
- JPA - Joint Powers Authority
- LRB - Lease Revenue Bonds
- MPO - Metropolitan Planning Organization
- MM - Million
- PAB - Private Activity Bond
- P3 - Public Private Partnership
- ROW - Right-Of-Way
- RRIF - Railroad Rehabilitation and Improvement Financing
- TIFIA - Transportation Infrastructure Finance and Innovation Act
- USDOT - United States Department of Transportation